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Experimental and actual values of self-diffusion coefficients of liquids in porous media

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Abstract

Self-diffusion coefficients D*of liquids in porous media, as measured by the pulsed-field gradient NMR method, have been investigated as functions of the interval t 1 between the first and the second radio-frequency pulses (the time of spin dephasing) in the "stimulated echo" pulsed procedure. Experimental D*(t 1) dependences have been shown to be adequately described by the relations of the Fatkullin theory for moderate and short correlation times of spin motion in an internal random Gaussian magnetic field. Actual self-diffusion coefficients and some parameters of the porous media have been estimated. © 2007 Pleiades Publishing, Ltd.

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